HANDHELD ELECTRONIC DEVICE AND RISING MECHANISM

CROSS-REFERENCE TO RELATED APPLICATION

This application claims the priority benefit of Taiwan application serial No. 98126812, filed on Aug. 10, 2009. The entirety of the above-mentioned patent application is hereby incorporated by reference herein and made a part of this specification.

BACKGROUND OF THE INVENTION

1. Field of the Application

The application generally relates to a handheld electronic device and a rising mechanism, in particular, to a handheld electronic device in which two bodies are spread to form an angle, and a rising mechanism capable of enabling two bodies to spread and form an angle.

2. Description of Related Art

Recently, with the development of information technology, it is getting easier to acquire desired information from electronic devices in daily life. Further, due to progress in the industrial technology, various types of handheld electronic devices are developed towards a trend of light, thin, short, and small products. Having the characteristic and advantage of being portable, the handheld electronic devices are widely accepted and applied in daily life.

Taking cell phones as an example, in order to conveniently carry the cell phones and satisfy different use preferences and demands, in addition to conventional bar phones, the cell phones also include clamshell phones, twist phones, slide phones, and other common types of phones. For a slide phone, its upper and lower bodies are stacked and capable of sliding relative to each other, so as to achieve different operation modes, for example, an opening mode and a closing mode. The stacking of the upper and lower bodies helps to reduce an entire volume of the slide phone, and the upper and lower bodies may be spread under a specific operation mode.

Here, taking a double-layer slide phone having a keyboard as an example, the slide phone operates in the following manner. A force is applied to make a display screen slide to a side of the keyboard, and the keyboard is thus exposed to enable a user to input easily. However, in this design, the display screen and the keyboard remain in parallel, such that the user needs to change gestures or move the handheld electronic device at any moment to satisfy the demands of inputting through the keyboard and viewing the screen.

SUMMARY OF THE INVENTION

Accordingly, the application is directed to a handheld electronic device and a rising mechanism applicable to the handheld electronic device, so that after being spread, the handheld electronic device is arranged in a manner that is convenient to be held and viewed by a user through the rising mechanism, thereby increasing the convenience for the user to operation.

The application provides a handheld electronic device, which includes a first body, a second body, and a rising mechanism. The second body is stacked under the first body. A side of the second body facing the first body has a depression. The rising mechanism is disposed in the depression, and connected between the first body and the second body. The rising mechanism is slidably coupled to the first body, so that when the first body and the second body are relatively spread, the first body slides relative to the rising mechanism. When the first body reaches a predetermined position, an end of the first body enters the depression, the rising mechanism drives the first body to rotate relative to the second body, and an upper surface of the first body and an upper surface of the second body form an angle.

The application provides a rising mechanism, which is adapted to be connected between a first body and a second body, located in a depression of the second body, and slidably coupled to the first body. When the first body and the second body are relatively spread, the first body slides relative to the rising mechanism. After the first body reaches a predetermined position, an end of the first body enters the depression, the rising mechanism drives the first body to rotate relative to the second body, and an upper surface of the first body and an upper surface of the second body form an angle.

In view of the above, when using the handheld electronic device of the application, the user applies a force to the first body, such that the second body and the first body are relatively spread. After the first body slides to a predetermined position, the rising mechanism drives the first body to rotate relative to the second body and enter the depression of the second body, such that the second body and the first body form an angle. Thereby, the handheld electronic device is easy to be held and viewed, which increases the convenience for the user to operate.

In order to make the aforementioned and other features and advantages of the application comprehensible, embodiments accompanied with figures are described in detail below.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings are included to provide a further understanding of the application, and are incorporated in and constitute a part of this specification. The drawings illustrate embodiments of the application and, together with the description, serve to explain the principles of the application.

FIG. **1** is a schematic exploded view of a handheld electronic device according to an embodiment of the application.

FIGS. **2**A to **2**C sequentially show an operation process of the handheld electronic device in FIG. **1**.

FIGS. **3**A to **3**C are side views of the handheld electronic device corresponding to the operation process in FIGS. **2**A to **2**C.

FIGS. **4**A to **4**C show a cross-sectional structure of the handheld electronic device corresponding to the operation process in FIGS. **2**A to **2**C.

DESCRIPTION OF THE EMBODIMENTS

Reference will now be made in detail to the present embodiments of the application, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers are used in the drawings and the description to refer to the same or like parts.

FIG. **1** is an exploded view of a handheld electronic device according to an embodiment of the application. Referring to FIG. **1**, a handheld electronic device **100** includes a first body **110**, a second body **120**, and a rising mechanism **130**. The first body **110** and the second body **120** are, for example, upper and lower bodies of a slide phone. The second body **120** is stacked under the first body **110**, and a side of the second body **120** facing the first body **110** has a depression **122**. The rising mechanism **130** is connected between the first body **110** and the second body **120**.